# The CRUSHED STONE JOURNAL

PUBLISHED QUARTERLY

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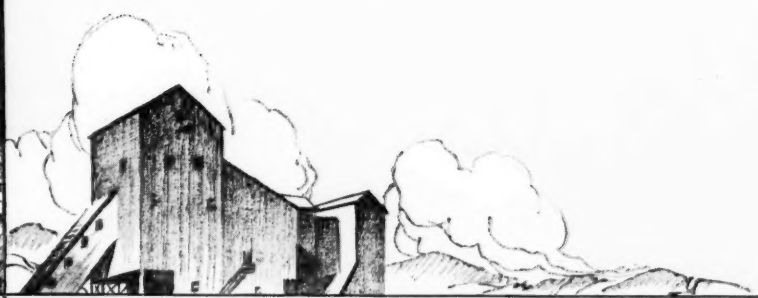

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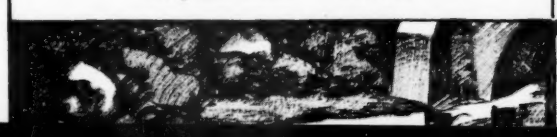
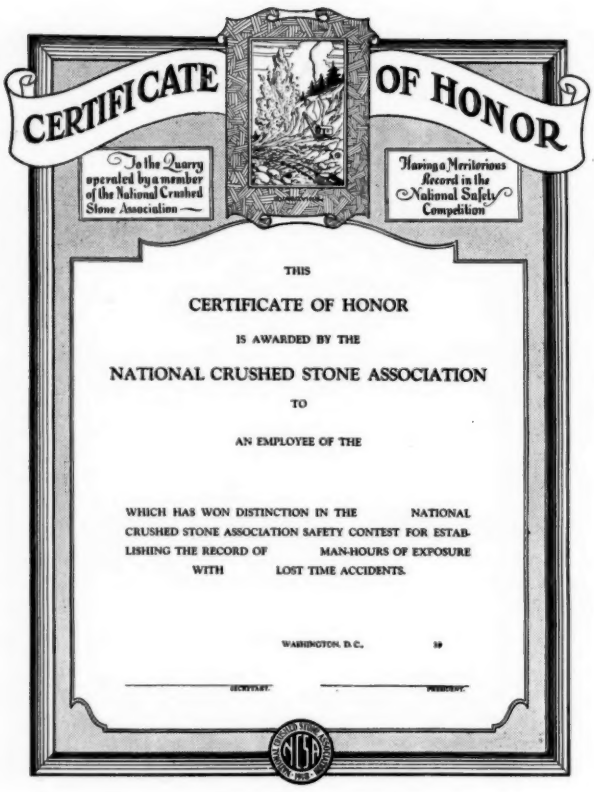



CERTIFICATE OF HONOR

To the Quarry operated by a member of the National Crushed Stone Association

Having a Meritorious Record in the National Safety Competition

THIS

CERTIFICATE OF HONOR

IS AWARDED BY THE

NATIONAL CRUSHED STONE ASSOCIATION

TO

AN EMPLOYEE OF THE

WHICH HAS WON DISTINCTION IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY CONTEST FOR ESTABLISHING THE RECORD OF MAN-HOURS OF EXPOSURE WITH LOST TIME ACCIDENTS.

WASHINGTON, D.C., 19

SECRETARY. PRESIDENT.

THIS Certificate of Honor will be presented to each employee of each plant which completed the year 1942 with no lost time accidents.

# THE CRUSHED STONE JOURNAL

WASHINGTON, D. C.

Vol. XVIII No. 3 PUBLISHED QUARTERLY SEPTEMBER, 1943


# The National Crushed Stone Association Safety Competition of 1942


By T. D. LAWRENCE and J. I. DAVIS

Under supervision of W. W. Adams, Mineral Production and Economics Division, Economics and Statistics Service, U. S. Bureau of Mines.


• Tomkins Cove quarry of the New York Trap Rock Corp. wins contest. Honorable mention accorded 13 plants for accident free record.

IN COOPERATION with the National Crushed Stone Association, the Bureau of Mines of the United States Department of the Interior conducted an accident-prevention contest among quarrying and mining companies engaged in the production of crushed stone during the year 1942. The contest was the 17th yearly competition for the promotion of safety in the crushed-stone industry. Fifty-two plants—48 open quarries and 4 underground mines—participated in the contest, all of which were included in the membership of the National Crushed Stone Association. All but four of these plants were also enrolled in the contest of 1941. Operations at the 52 plants during 1942 represented an increase of 1½ million man-hours of work over the volume of labor represented by the enrollment of 51 plants in the safety contest of 1941.

The enrolled plants competed for a safety trophy, a bronze plaque on which is portrayed in bas-relief the quarry scene on the pedestal of the "Sentinels of Safety" trophy awarded in the National Safety Competition, provided by the *Explosives Engineer* magazine. According to the contest rules the winner of the contest is the plant that establishes the lowest accident-severity rate. In addition to the trophy, each plant, other than the trophy winner, that operates throughout the year with an accident-free record receives honorable mention and is awarded a parchment reproduction of the quarry scene on the bronze plaque. Each employee of the plants with accident-free records is presented with a Certificate of Honor. The trophy, parchment reproductions, and certificates are usually presented at the annual convention of the National Crushed Stone Association.

The Tomkins Cove quarry of the New York Trap Rock Corporation was the trophy winner in the 1942 contest. This quarry, located at Tomkins Cove, Rockland County, N. Y., was in operation 192,000 man-hours without a lost-time or disabling injury to any employee throughout the year.

1. North Branford No. 7 trap-rock quarry, North Branford, New Haven County, Conn., operated by the New Haven Trap Rock Company, worked 135,761 man-hours.

2. Marquette limestone quarry, Cape Girardeau, Cape Girardeau County, Mo., operated by the Marquette Cement Mfg. Company, worked 106,-856 man-hours.

3. Verplanck limestone quarry, Verplanck, Westchester County, N. Y., operated by the New York Trap Rock Corporaton, worked 98,601 man-hours.

4. North American limestone quarry, Martinsburg, Berkeley County, West Virginia, operated by the North American Cement Corporation, worked 91,727 man-hours.

TABLE 1

RELATIVE STANDING OF QUARRIES IN THE 1942 NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION, BASED UPON THE ACCIDENT-SEVERITY RATES OF THE QUARRIES[1]

| Code No. | Group No. | Man-hours worked | Number of injuries[2] | | | | | Average days of disability per temp. injury | Number of days of disability[2] | | | | | Frequency rate[3] | Severity rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F. | P.T. | P.P. | Temp. | Total | | F. | P.T. | P.P. | Temp. | Total | | |
| 1 | 1 | 192,000 | — | — | — | — | — | — | — | — | — | — | — | 0.000 | 0.000 |
| 2 | 2 | 135,761 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 3 | 3 | 106,856 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 4 | 4 | 98,601 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 5 | 5 | 91,727 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 6 | 6 | 81,334 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 7 | 7 | 60,263 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 8 | 8 | 55,085 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 9 | 9 | 53,360 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 10 | 10 | 52,363 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 11 | 11 | 44,101 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 12 | 12 | 27,800 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 13 | 13 | 26,369 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 14 | 14 | 25,688 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 15 | 15 | 18,101 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 16 | 16 | 14,363 | — | — | — | — | — | — | — | — | — | — | — | .000 | .000 |
| 17 | 17 | 134,796 | — | — | — | 2 | 2 | 6 | — | — | — | 12 | 12 | 14.837 | .045 |
| 18 | 18 | 87,955 | — | — | — | 1 | 1 | 5 | — | — | — | 5 | 5 | 11.369 | .057 |
| 19 | 19 | 112,260 | — | — | — | 2 | 2 | 4 | — | — | — | 8 | 8 | 17.816 | .071 |
| 20 | 20 | 82,372 | — | — | — | 1 | 1 | 10 | — | — | — | 10 | 10 | 12.140 | .121 |
| 21 | 21 | 691,221 | — | — | — | 4 | 4 | 33 | — | — | — | 132 | 132 | 5.787 | .191 |
| 22 | 22 | 221,884 | — | — | — | 2 | 2 | 22 | — | — | — | 43 | 43 | 9.014 | .194 |
| 23 | 23 | 187,033 | — | — | — | 5 | 5 | 8 | — | — | — | 38 | 38 | 26.733 | .203 |
| 24 | 24 | 9,000 | — | — | — | 1 | 1 | 2 | — | — | — | 2 | 2 | 111.111 | .222 |
| 25 | 25 | 54,340 | — | — | — | 1 | 1 | 14 | — | — | — | 14 | 14 | 18.403 | .258 |
| 26 | 26 | 308,683 | — | — | — | 4 | 4 | 29 | — | — | — | 114 | 114 | 12.598 | .369 |
| 27 | 27 | 258,229 | — | — | — | 8 | 8 | 13 | — | — | — | 100 | 100 | 30.980 | .387 |
| 28 | 28 | 48,838 | — | — | — | 3 | 3 | 7 | — | — | — | 21 | 21 | 61.428 | .430 |
| 30 | 29 | 70,032 | — | — | — | 1 | 1 | 38 | — | — | — | 38 | 38 | 14.279 | .543 |
| 31 | 30 | 181,086 | — | — | — | 5 | 5 | 21 | — | — | — | 103 | 103 | 27.611 | .569 |
| 32 | 31 | 463,892 | — | — | — | 12 | 12 | 24 | — | — | — | 292 | 292 | 25.868 | .629 |
| 33 | 32 | 168,237 | — | — | — | 4 | 4 | 28 | — | — | — | 111 | 111 | 23.776 | .660 |
| 34 | 33 | 132,914 | — | — | — | 3 | 3 | 31 | — | — | — | 94 | 94 | 22.571 | .707 |
| 35 | 34 | 81,305 | — | — | — | 1 | 1 | 65 | — | — | — | 65 | 65 | 12.299 | .799 |
| 36 | 35 | 303,460 | — | — | — | 36 | 36 | 7 | — | — | — | 249 | 249 | 118.632 | .821 |
| 37 | 36 | 122,947 | — | — | — | 7 | 7 | 15 | — | — | — | 103 | 103 | 56.935 | .838 |
| 38 | 37 | 277,748 | — | — | — | 15 | 15 | 16 | — | — | — | 241 | 241 | 54.006 | .868 |
| 39 | 38 | 79,714 | — | — | — | 1 | 1 | 83 | — | — | — | 83 | 83 | 12.545 | 1.041 |
| 42 | 39 | 285,596 | — | — | — | 18 | 18 | 29 | — | — | — | 528 | 528 | 63.026 | 1.849 |
| 43 | 40 | 53,083 | — | — | — | 3 | 3 | 36 | — | — | — | 108 | 108 | 56.515 | 2.035 |
| 44 | 41 | 224,164 | — | — | — | 6 | 6 | 90 | — | — | — | 538 | 538 | 26.766 | 2.400 |
| 45 | 42 | 105,032 | — | — | — | 5 | 5 | 64 | — | — | — | 319 | 319 | 47.605 | 3.037 |
| 46 | 43 | 254,034 | — | — | 1 | 13 | 14 | 17 | — | — | 1,500 | 216 | 1,716 | 55.111 | 6.755 |
| 48 | 44 | 335,504 | 1 | — | — | 1 | 2 | 20 | 6,000 | — | — | 20 | 6,020 | 5.961 | 17.943 |
| 49 | 45 | 317,235 | — | 1 | — | 2 | 3 | 8 | — | 6,000 | — | 16 | 6,016 | 9.457 | 18.964 |
| 50 | 46 | 272,505 | 1 | — | — | 10 | 11 | 51 | 6,000 | — | — | 513 | 6,513 | 40.366 | 23.900 |
| 51 | 47 | 132,053 | 1 | — | — | 5 | 6 | 18 | 6,000 | — | — | 89 | 6,089 | 45.436 | 46.110 |
| 52 | 48 | 38,011 | — | 1 | — | 1 | 2 | 14 | — | 6,000 | — | 14 | 6,014 | 52.616 | 158.217 |
| Totals and rates, 1942 | | 7,178,935 | 3 | 2 | 1 | 183 | 189 | 23 | 18,000 | 12,000 | 1,500 | 4,239 | 35,739 | 26.327 | 4.978 |
| Totals and rates, 1941 | | 5,777,587 | 3 | 0 | 5 | 98 | 106 | 23 | 18,000 | 0 | 9,300 | 2,266 | 29,566 | 18.347 | 5.117 |

[1] As reports from mining companies are considered confidential by the Bureau of Mines, the identities of the plants to which this table relates are not revealed.

[2] F., fatal; P.T., permanent total disability; P.P., permanent partial disability; Temp., temporary disability.

[3] Frequency rate indicates the number of fatal, permanent, and other disabling injuries per million man-hours of exposure; severity rate indicates number of days of disability lost from injuries per thousand man-hours of exposure.

TABLE 2

RELATIVE STANDING OF UNDERGROUND MINES IN THE 1942 NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION, BASED UPON THE ACCIDENT-SEVERITY RATES OF THE MINES[1]

| Code No. | Group No. | Man-hours worked | Number of injuries[2] | | | | | Average days of disability per temp. injury | Number of days of disability[2] | | | | | Frequency rate[3] | Severity rate[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F. | P.T. | P.P. | Temp. | Total | | F. | P.T. | P.P. | Temp. | Total | | |
| 29 | 1 | 224,289 | — | — | — | 3 | 3 | 35 | — | — | — | 105 | 105 | 13.376 | 0.468 |
| 40 | 2 | 230,311 | — | — | — | 11 | 11 | 24 | — | — | — | 264 | 264 | 47.762 | 1.146 |
| 41 | 3 | 79,128 | — | — | — | 7 | 7 | 13 | — | — | — | 92 | 92 | 88.464 | 1.163 |
| 47 | 4 | 252,166 | — | — | 1 | 12 | 13 | 63 | — | — | 1,800 | 752 | 2,552 | 51.553 | 10.120 |
| Totals and rates, 1942 | | 785,894 | 0 | 0 | 1 | 33 | 34 | 37 | 0 | 0 | 1,800 | 1,213 | 3,013 | 43.263 | 3.834 |
| Totals and rates, 1941 | | 591,568 | 0 | 0 | 1 | 15 | 16 | 11 | 0 | 0 | 750 | 169 | 919 | 27.047 | 1.553 |

[1] See footnotes 1, 2 and 3, Table 1.

5. White Haven sandstone quarry, White Haven, Luzerne County, Pa., operated by the General Crushed Stone Company, worked 81,334 man-hours.

6. Union Furnace limestone quarry, Huntingdon County, near Tyrone, Blair County, Pa., operated by the American Lime and Stone Company, worked 60,263 man-hours.

7. Winchester trap-rock quarry, Winchester, Middlesex County, Mass., operated by The General Crushed Stone Company, worked 55,085 man-hours.

8. Middlefield No. 1 trap-rock quarry, New Haven County, Conn., near Middlefield, Middlesex County, Conn., operated by The New Haven Trap Rock Company, worked 53,360 man-hours.

9. Auburn limestone quarry, Auburn, Cayuga County, N. Y., operated by The General Crushed Stone Company, worked 52,363 man-hours.

10. Rocky Hill No. 3 trap-rock quarry, Rocky Hill, Hartford County, Conn., operated by The New Haven Trap Rock Company, worked 44,101 man-hours.

11. Cheshire No. 6 trap-rock quarry, Cheshire, New Haven County, Conn., operated by The New Haven Trap Rock Company, worked 27,800 man-hours.

12. North American limestone quarry, Howes Cave, Schoharie County, N. Y., operated by the North American Cement Corporation, worked 26,369 man-hours.

13. Prospect limestone quarry, Prospect, Oneida County, N. Y., operated by the L. & M. Stone Company, worked 18,101 man-hours.

The 52 plants enrolled in the 1942 contest operated in the following 18 States:

| State | No. of plants | State | No. of plants | State | No. of plants |
|---|---|---|---|---|---|
| California | 1 | Massachusetts | 1 | Oklahoma | 1 |
| Connecticut | 5 | Michigan | 1 | Pennsylvania | 10 |
| Georgia | 1 | Missouri | 2 | South Carolina | 1 |
| Illinois | 2 | New York | 13 | Texas | 2 |
| Iowa | 1 | North Carolina | 5 | Virginia | 3 |
| Maryland | 1 | Ohio | 1 | West Virginia | 1 |

The 1942 accident-severity rate of 4.978 for the open quarry group decreased 3 percent from the 1941 rate of 5.117. The accident-frequency rate rose from 18.347 in 1941 to 26.327 in 1942, an increase of 43 percent. The 48 open quarries worked 7,178,935 man-hours, a 24 percent increase over the previous year.

The four underground mines enrolled in both the 1941 and 1942 contests worked 785,894 man-hours during 1942, which is a 33 percent increase over 1941. Both the accident-frequency and severity rates increased over the previous year's rates.

In classifying the 223 disabling injuries that occurred in 1942, 104 could not be classified because of insufficient information. Falling objects, falls of persons, handling materials or objects, and haulage caused 60 percent of the 119 classified injuries. Accidents caused by machinery and falls and slides of rock resulted in the greatest number of days of disability of all the causes given in table 7.

Tables 1 and 2 show the relative standing of plants enrolled in the contest arranged according to their accident-severity rates. When two or more plants have accident-free records, the contest rules provide

TABLE 3

YEARLY SUMMARY—OPEN QUARRIES IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION, 1926-42

| Year | Plants | Man-hours worked | Number of injuries[1] | | | | | Number of days of disability[1] | | | | | Frequency rate[2] | Severity rate[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fatal | P.T. | P.P. | Temp. | Total | Fatal | P.T. | P.P. | Temp. | Total | | |
| 1925[3] | 38 | 4,927,402 | 4 | —— | 3 | 292 | 299 | 24,000 | —— | 3,600 | 5,286 | 32,886 | 60.681 | 6.674 |
| 1926 | 40 | 5,298,983 | 3 | —— | 6 | 207 | 216 | 18,000 | —— | 9,000 | 4,239 | 31,239 | 40.763 | 5.895 |
| 1927 | 48 | 7,876,791 | 9 | —— | 2 | 458 | 469 | 54,000 | —— | 2,100 | 7,186 | 63,286 | 59.542 | 8.034 |
| 1928 | 53 | 7,509,098 | 8 | —— | 4 | 322 | 334 | 48,000 | —— | 8,700 | 5,493 | 62,193 | 44.479 | 8.282 |
| 1929 | 53 | 7,970,325 | 4 | —— | 5 | 286 | 295 | 24,000 | —— | 5,760 | 5,533 | 35,293 | 37.012 | 4.428 |
| 1930 | 68 | 8,013,415 | 6 | —— | 9 | 227 | 242 | 36,000 | —— | 7,250 | 3,671 | 46,921 | 30.199 | 5.855 |
| 1931 | 58 | 5,085,857 | 4 | —— | 13 | 198 | 215 | 24,000 | —— | 18,660 | 3,540 | 46,200 | 42.274 | 9.084 |
| 1932 | 40 | 2,661,850 | 1 | —— | 4 | 75 | 80 | 6,000 | —— | 6,750 | 2,481 | 15,231 | 30.054 | 5.722 |
| 1933 | 40 | 2,704,871 | 1 | —— | 1 | 67 | 69 | 6,000 | —— | 48 | 2,893 | 8,941 | 25.510 | 3.306 |
| 1934 | 46 | 3,288,257 | 1 | —— | 2 | 106 | 109 | 6,000 | —— | 2,850 | 1,873 | 10,723 | 33.148 | 3,261 |
| 1935 | 46 | 4,166,306 | 2 | 1 | 8 | 77 | 88 | 12,000 | 6,000 | 9,900 | 3,015 | 30,915 | 21.122 | 7.420 |
| 1936 | 50 | 6,399,023 | 5 | —— | 14 | 182 | 201 | 30,000 | —— | 8,168 | 4,590 | 42.758 | 31.411 | 6.682 |
| 1937 | 47 | 6,199,001 | 7 | —— | 9 | 136 | 152 | 42,000 | —— | 5,875 | 4,461 | 52,336 | 24.520 | 8.443 |
| 1938 | 47 | 4,658,119 | 2 | —— | 6 | 76 | 84 | 12,000 | —— | 6,600 | 3,184 | 21,784 | 18.033 | 4.677 |
| 1939 | 44 | 4,219,086 | 2 | —— | 2 | 51 | 55 | 12,000 | —— | 4,800 | 1,678 | 18,478 | 13.036 | 4.380 |
| 1940 | 46 | 4,358,409 | 1 | —— | 5 | 78 | 84 | 6,000 | —— | 2,550 | 3,013 | 11,563 | 19.273 | 2.653 |
| 1941 | 47 | 5,777,587 | 3 | —— | 5 | 98 | 106 | 18,000 | —— | 9,300 | 2,266 | 29,566 | 18.347 | 5.117 |
| 1942 | 48 | 7,178,935 | 3 | 2 | 1 | 183 | 189 | 18,000 | 12,000 | 1,500 | 4,239 | 35,739 | 26.327 | 4.978 |
| Total 1926-42 | — | 93,365,913 | 62 | 3 | 96 | 2,827 | 2,988 | 372,000 | 18,000 | 109,811 | 63,355 | 563,166 | 32.003 | 6.032 |
| Total 1925-42 | — | 98,293,315 | 66 | 3 | 99 | 3,119 | 3,287 | 396,000 | 18,000 | 113,411 | 68,641 | 596,052 | 33.441 | 6.064 |

[1] See footnotes 1 and 2, Table 1.
[2] See footnote 3, Table 1.
[3] The National Crushed Stone Association Safety Competition began in 1926; figures for 1925 for company members are given for comparison.

TABLE 4

YEARLY SUMMARY—UNDERGROUND MINES IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION, 1926-42

| Year | Plants | Man-hours worked | Number of injuries[1] | | | | | Number of days of disability[1] | | | | | Frequency rate[2] | Severity rate[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fatal | P.T. | P.P. | Temp. | Total | Fatal | P.T. | P.P. | Temp. | Total | | |
| 1925[3] | 3 | 400,672 | — | — | — | 29 | 29 | —— | —— | —— | 228 | 228 | 72.378 | 0.569 |
| 1926 | 3 | 517,926 | — | — | — | 34 | 34 | —— | —— | —— | 533 | 533 | 65.646 | 1.029 |
| 1927 | 2 | 318,449 | 1 | — | 1 | 14 | 16 | 6,000 | —— | 300 | 68 | 6,368 | 50.244 | 19.997 |
| 1928 | 5 | 542,193 | 1 | — | 1 | 68 | 70 | 6,000 | —— | 300 | 888 | 7,188 | 129.105 | 13.257 |
| 1929 | 4 | 665,520 | 1 | — | 1 | 30 | 32 | 6,000 | —— | 300 | 617 | 6,917 | 48.083 | 10.393 |
| 1930 | 6 | 595,367 | 1 | — | 1 | 15 | 17 | 6,000 | —— | 225 | 468 | 6,693 | 28.554 | 11.242 |
| 1931 | 3 | 345,105 | — | — | — | 4 | 4 | —— | —— | —— | 147 | 147 | 11.591 | .426 |
| 1932 | 2 | 158,450 | — | — | — | 6 | 6 | —— | —— | —— | 165 | 165 | 37.867 | 1.041 |
| 1933 | 3 | 229,381 | — | — | — | 11 | 11 | —— | —— | —— | 349 | 349 | 47.955 | 1.521 |
| 1934 | 4 | 248,146 | — | — | — | 13 | 13 | —— | —— | —— | 287 | 287 | 52.389 | 1.157 |
| 1935 | 2 | 175,994 | — | — | — | 3 | 3 | —— | —— | —— | 249 | 249 | 17.046 | 1.415 |
| 1936 | 4 | 334,747 | 1 | — | — | 7 | 8 | 6,000 | —— | —— | 117 | 6,117 | 23.899 | 18.274 |
| 1937 | 3 | 364,680 | — | — | — | 3 | 3 | —— | —— | —— | 91 | 91 | 8.226 | .250 |
| 1938 | 3 | 334,442 | — | — | — | 2 | 2 | —— | —— | —— | 133 | 133 | 5.980 | .398 |
| 1939 | 4 | 393,039 | — | — | 1 | 7 | 8 | —— | —— | 600 | 457 | 1,057 | 20.354 | 2.689 |
| 1940 | 4 | 375,987 | — | — | 1 | 8 | 9 | —— | —— | 4,500 | 888 | 5,388 | 23.737 | 14.330 |
| 1941 | 4 | 591,568 | — | — | 1 | 15 | 16 | —— | —— | 750 | 169 | 919 | 27.047 | 1.553 |
| 1942 | 4 | 785,894 | — | — | 1 | 33 | 34 | —— | —— | 1,800 | 1,213 | 3,013 | 43.263 | 3.834 |
| Total 1926-42 | — | 6,976,888 | 5 | 0 | 8 | 273 | 286 | 30,000 | 0 | 8,775 | 6,839 | 45,614 | 40.992 | 6.538 |
| Total 1925-42 | — | 7,377,560 | 5 | 0 | 8 | 302 | 315 | 30,000 | 0 | 8,775 | 7,067 | 45,842 | 42.697 | 6.214 |

[1] See footnotes 1 and 2, Table 1.
[2] See footnote 3, Table 1.
[3] The National Crushed Stone Association Safety Competition began in 1926; figures for 1925 for company members are given for comparison.

TABLE 5

YEARLY SUMMARY—OPEN QUARRIES AND UNDERGROUND MINES IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION, 1926-42

| Year | Plants | Man-hours worked | Number of injuries[1] | | | | | Number of days of disability[1] | | | | | Frequency rate[2] | Severity rate[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Fatal | P.T. | P.P. | Temp. | Total | Fatal | P.T. | P.P. | Temp. | Total | | |
| 1925[3] | 41 | 5,328,074 | 4 | —— | 3 | 321 | 328 | 24,000 | —— | 3,600 | 5,514 | 33,114 | 61.561 | 6.215 |
| 1926 | 43 | 5,816,909 | 3 | —— | 6 | 241 | 250 | 18,000 | —— | 9,000 | 4,772 | 31,772 | 42.978 | 5.462 |
| 1927 | 50 | 8,195,240 | 10 | —— | 3 | 472 | 485 | 60,000 | —— | 2,400 | 7,254 | 69,654 | 59.181 | 8.499 |
| 1928 | 58 | 8,051,291 | 9 | —— | 5 | 390 | 404 | 54,000 | —— | 9,000 | 6,381 | 69,381 | 50.178 | 8.617 |
| 1929 | 57 | 8,635,845 | 5 | —— | 6 | 316 | 327 | 30,000 | —— | 6,060 | 6,150 | 42,210 | 37.865 | 4.888 |
| 1930 | 74 | 8,608,782 | 7 | —— | 10 | 242 | 259 | 42,000 | —— | 7,475 | 4,139 | 53,614 | 30.086 | 6.228 |
| 1931 | 61 | 5,430,962 | 4 | —— | 13 | 202 | 219 | 24,000 | —— | 18,660 | 3,687 | 46,347 | 40.324 | 8.534 |
| 1932 | 42 | 2,820,300 | 1 | —— | 4 | 81 | 86 | 6,000 | —— | 6,750 | 2,646 | 15,396 | 30.493 | 5.459 |
| 1933 | 43 | 2,934,252 | 1 | —— | 1 | 78 | 80 | 6,000 | —— | 48 | 3,242 | 9,290 | 27.264 | 3.166 |
| 1934 | 50 | 3,536,403 | 1 | —— | 2 | 119 | 122 | 6,000 | —— | 2,850 | 2,160 | 11,010 | 34.498 | 3.113 |
| 1935 | 48 | 4,342,300 | 2 | 1 | 8 | 80 | 91 | 12,000 | 6,000 | 9,900 | 3,264 | 31,164 | 20.957 | 7.177 |
| 1936 | 54 | 6,733,770 | 6 | —— | 14 | 189 | 209 | 36,000 | —— | 8,168 | 4,707 | 48,875 | 31.038 | 7.258 |
| 1937 | 50 | 6,563,681 | 7 | —— | 9 | 139 | 155 | 42,000 | —— | 5,875 | 4,552 | 52,427 | 23.615 | 7.987 |
| 1938 | 50 | 4,992,561 | 2 | —— | 6 | 78 | 86 | 12,000 | —— | 6,600 | 3,317 | 21,917 | 17.226 | 4.390 |
| 1939 | 48 | 4,612,125 | 2 | —— | 3 | 58 | 63 | 12,000 | —— | 5,400 | 2,135 | 19,535 | 13.660 | 4.236 |
| 1940 | 50 | 4,734,396 | 1 | —— | 6 | 86 | 93 | 6,000 | —— | 7,050 | 3,901 | 16,951 | 19.643 | 3.580 |
| 1941 | 51 | 6,369,155 | 3 | —— | 6 | 113 | 122 | 18,000 | —— | 10,050 | 2,435 | 30,485 | 19.155 | 4.786 |
| 1942 | 52 | 7,964,829 | 3 | 2 | 2 | 216 | 223 | 18,000 | 12,000 | 3,300 | 5,452 | 38,752 | 27.998 | 4.865 |
| Total 1926-42 | — | 100,342,801 | 67 | 3 | 104 | 3,100 | 3,274 | 420,000 | 18,000 | 118,586 | 70,194 | 608,780 | 32.628 | 6.067 |
| Total 1925-42 | — | 105,670,875 | 71 | 3 | 107 | 3,421 | 3,602 | 426,000 | 18,000 | 122,186 | 75,708 | 641,894 | 34.087 | 6.074 |

[1] See footnotes 1 and 2, Table 1.
[2] See footnote 3, Table 1.
[3] The National Crushed Stone Association Safety Competition began in 1926; figures for 1925 for company members are given for comparison.

that the number of man-hours worked govern the order. Tables 3 and 4 show yearly summary figures for all enrolled plants from 1926 to 1942, and for Association members for 1925, the year before the contests were organized. Table 5 shows a yearly summary covering both open quarries and underground mines that were enrolled in the contests. Tables 6 and 7 show the number of injuries by causes and days of disability by causes of injuries in 1942. Table 8 shows the average days of disability for temporary injuries at mines and quarries enrolled in the contests.

TABLE 6

NUMBER OF INJURIES, BY CAUSES, AT QUARRIES AND UNDERGROUND MINES IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION IN 1942.

| Cause | Fatal | Permanent | | Temporary | Total |
|---|---|---|---|---|---|
| | | Total | Partial | | |
| Falls and slides of rock | — | 1 | — | 6 | 7 |
| Handling materials or objects | — | — | — | 13 | 13 |
| Hand tools | 1 | — | — | 3 | 4 |
| Explosives | — | — | 1 | 1 | 2 |
| Haulage | — | 1 | — | 12 | 13 |
| Falls of persons | 1 | — | — | 18 | 19 |
| Bumping against objects | — | — | — | 1 | 1 |
| Falling objects | — | — | — | 26 | 26 |
| Flying objects or particles | — | — | — | 8 | 8 |
| Electricity | — | — | — | 1 | 1 |
| Drilling | — | — | — | 5 | 5 |
| Machinery | 1 | — | 1 | 8 | 10 |
| Stepping on objects | — | — | — | 3 | 3 |
| Burns | — | — | — | 5 | 5 |
| Other causes | — | — | — | 2 | 2 |
| Total | 3 | 2 | 2 | 112 | 119 |
| Not stated | — | — | — | 104 | 104 |
| Grand total | 3 | 2 | 2 | 216 | 223 |

TABLE 7

DAYS OF DISABILITY BY CAUSES OF INJURIES AT QUARRIES AND UNDERGROUND MINES IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION IN 1942.

| Cause | Fatal | Permanent | | Temporary | Total |
|---|---|---|---|---|---|
| | | Total | Partial | | |
| Falls and slides of rock | — | 6,000 | — | 583 | 6,583 |
| Handling materials or objects | — | — | — | 187 | 187 |
| Hand tools | 6,000 | — | — | 49 | 6,049 |
| Explosives | — | — | 1,800 | 65 | 1,865 |
| Haulage | — | 6,000 | — | 343 | 6,343 |
| Falls of persons | 6,000 | — | — | 370 | 6,370 |
| Bumping against objects | — | — | — | 2 | 2 |
| Falling objects | — | — | — | 1,137 | 1,137 |
| Flying objects or particles | — | — | — | 45 | 45 |
| Electricity | — | — | — | 12 | 12 |
| Drilling | — | — | — | 94 | 94 |
| Machinery | 6,000 | — | 1,500 | 342 | 7,842 |
| Stepping on objects | — | — | — | 8 | 8 |
| Burns | — | — | — | 74 | 74 |
| Other causes | — | — | — | 31 | 31 |
| Total | 18,000 | 12,000 | 3,300 | 3,342 | 36,642 |
| Not stated | — | — | — | 2,110 | 2,110 |
| Grand total | 18,000 | 12,000 | 3,300 | 5,452 | 38,752 |

TABLE 8

AVERAGE DAYS OF DISABILITY PER TEMPORARY INJURY AT PLANTS ENROLLED IN THE NATIONAL CRUSHED STONE ASSOCIATION SAFETY COMPETITION

| | Underground mines | | | Open Quarries | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | No. of temporary injuries | No. of days of disability | Av. days of disability | No. of temporary injuries | No. of days of disability | Av. days of disability | No. of temporary injuries | No. of days of disability | Av. days of disability |
| 1925 | 29 | 228 | 8 | 202 | 5,286 | 18 | 321 | 5,514 | 17 |
| 1926 | 34 | 533 | 16 | 207 | 4,239 | 20 | 241 | 4,772 | 20 |
| 1927 | 14 | 68 | 5 | 458 | 7,186 | 16 | 472 | 7,254 | 15 |
| 1928 | 68 | 888 | 13 | 322 | 5,493 | 17 | 390 | 6,381 | 16 |
| 1929 | 30 | 617 | 21 | 286 | 5,533 | 19 | 316 | 6,150 | 19 |
| 1930 | 15 | 468 | 31 | 227 | 3,671 | 16 | 242 | 4,139 | 17 |
| 1931 | 4 | 147 | 37 | 198 | 3,540 | 18 | 202 | 3,687 | 18 |
| 1932 | 6 | 165 | 28 | 75 | 2,481 | 33 | 81 | 2,646 | 33 |
| 1933 | 11 | 349 | 32 | 67 | 2,893 | 43 | 78 | 3,242 | 42 |
| 1934 | 13 | 287 | 22 | 106 | 1,873 | 18 | 119 | 2,160 | 18 |
| 1935 | 3 | 249 | 83 | 77 | 3,015 | 39 | 80 | 3,264 | 41 |
| 1936 | 7 | 117 | 17 | 182 | 4,590 | 25 | 189 | 4,707 | 25 |
| 1937 | 3 | 91 | 30 | 136 | 4,461 | 33 | 139 | 4,552 | 33 |
| 1938 | 2 | 133 | 67 | 76 | 3,184 | 42 | 78 | 3,317 | 43 |
| 1939 | 7 | 457 | 65 | 51 | 1,678 | 33 | 58 | 2,135 | 37 |
| 1940 | 8 | 888 | 111 | 78 | 3,013 | 39 | 86 | 3,901 | 45 |
| 1941 | 15 | 169 | 11 | 98 | 2,266 | 23 | 113 | 2,435 | 22 |
| 1942 | 33 | 1,213 | 37 | 183 | 4,239 | 23 | 216 | 5,452 | 25 |
| Total | 302 | 7,067 | 23 | 3,119 | 68,641 | 22 | 3,421 | 75,708 | 22 |

# Some Observations on Effective Accident Prevention

**By F. J. BUFFINGTON,** Safety Engineer, New York Trap Rock Corporation.

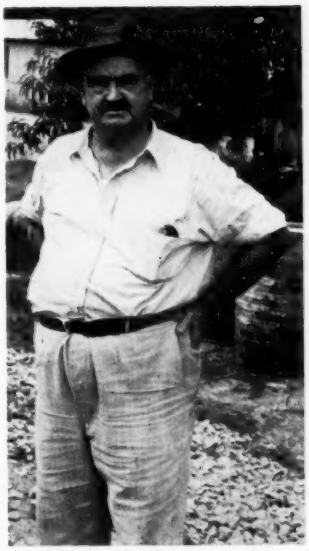
The Tomkins Cove quarry of the New York Trap Rock Corporation is one of the oldest in the State, having begun operations about 1855 as a lime burning quarry. For about 72 years it was owned and operated by the Tomkins family until 1927 when it was acquired by the New York Trap Rock Corporation. As a result of many years of operation, the majority of the men who work in the plant now are sons and grandsons of men who spent their lifetime in work at this quarry. Whether this has any effect on the accident experience at this quarry can not be definitely stated, but it is a fact that, with the exception of 1937 and 1939, the severity of accidents at Tomkins Cove has been quite low and for three years out of the past five the days lost because of accidents have been less than .2 per 1000 man hours.

PERMANENT SAFETY COMMITTEE AT TOMKINS COVE QUARRY: FROM LEFT TO RIGHT: B. GRALL, H. GUYETTE, W. ROSE, D. TOMKINS, *Quarry Supervisor*, W. JOHNSON, F. COVATI, J. RIST

Safety begins at the top in our organization and is actively sponsored by the Chairman of the Board, Mr. Wilson P. Foss, Jr., and the President, Mr. Stirling Tomkins. Joe Q. Taylor, the General Superintendent and his assistant, L. F. Miller, are constantly on the alert to prevent and control hazards, and the quarry Superintendent, W. S. McHenry, is an enthusiastic and resourceful advocate and worker for safety in his plant. It is this writer's belief that there

is no short-cut in achieving and maintaining safety in a quarry, and accident prevention work in any one quarry must begin with the superintendent and flow from him on down through the foremen and thus to the individual men. It seems to us that since the foreman is in charge of his men and in touch with them more than anyone else, he, therefore, is the logical man to have on a safety committee as their representative. To this end, our safety committee is a permanent one and each foreman is a permanent member. The senior electrician is also a member.

We deviate from common practice in one particular. We have no set rules governing procedure to achieve safety in the varying jobs that the men have to do. We decided (rightly or wrongly) some years ago that a set of standard practices or procedures for work to be done would tend to discourage originality, resourcefulness and watchfulness in the foremen and men, so instead we have encouraged development in the foremen and the men themselves of the ability to look ahead and forestall possible accidents. We emphasize that safety in a job is just as important as getting the job done. We dwell on the fact that the men are paid not only to do their work but to do it safely. We saddle the foreman with the responsibility for any injuries to his men, but the men are held accountable, also, for practices which show disregard for the safety of themselves or others. In such cases, great care is taken to explain fully the danger involved and how it can be avoided or minimized, and the man is encouraged to put forth any reasons he may have to support his method of doing the work in question. We do this because we know that sometimes we can be wrong and a hidden hazard may thus be brought out in the open.



W. S. McHENRY, SUPT.
TOMKINS COVE QUARRY

When a plant goes for a whole year without a lost-time accident, it is obvious that every man in the organization has done his part, and to each man belongs the credit for a job well done, because the failure of one man for a moment can ruin the safety record of the whole plant.

We believe that a good example of the advantage to be derived from our policy of developing individual resourcefulness on the part of our men occurred in 1943 at our Haverstraw plant. Because of faulty insulation on a 440 volt line on one of our electric shovels, the oiler on the shovel, Matthew

(*Continued on page 16*)

A NUMBER OF THE 105 MEN WHO WORK IN THE TOMKINS COVE QUARRY

# Edward W. Bauman to Join Association Staff

AT THE meeting of the Board of Directors of the Association held in Cincinnati on January 26 and 27, 1943, consideration was given to a proposal submitted by Otho M. Graves, past President of the Association and currently a member of the Executive Committee, that an additional engineer be employed with headquarters at Washington, whose duties would be largely those of a field engineer.

The idea was expressed that a competent engineer could perform many duties which would be helpful to the users of crushed stone and which likewise would be of assistance to the members of the Association. Further consideration of the proposed undertaking was referred to the Executive Committee which met on February 26 and 27 and again on March 19 and 20. This committee unanimously approved a specific plan for employing an engineer and in so doing had definitely in mind the qualifications he should possess and likewise the general type of work it would be desirable for him to perform.

EDWARD W. BAUMAN

The proposed plan was submitted by letter ballot to the Board of Directors and was voted upon favorably. Initiation and consummation of the plan were placed in charge of a special committee which, subject to approval by the Board of Directors, selected Edward W. Bauman as being eminently fitted for the duties of this new position. At its meeting at Hot Springs, Va., on July 30, the Board heartily approved of the choice made by its special committee; Mr. Bauman has accepted the position proffered to him and will report for duty on November 15.

To an exceptional degree Mr. Bauman is qualified to join the Association's staff as its field engineer. He attended Ohio Northern University from 1920 to 1923 when he interrupted his course in civil engineering, practically at its conclusion, to become a member of a survey party for the city of Los Angeles in connection with the Colorado River Aqueduct, a position which he held until 1924. He was then employed as Junior Materials Engineer with the Illinois State Highway Department, specializing in materials testing and concrete research until 1926. Mr. Bauman at this time accepted appointment as First Assistant Materials Engineer with the Tennessee Highway Department and in 1929 he was promoted to Engineer of Materials and Tests. During his employment with the Tennessee Highway Department he served on various committees of the following national societies: American Society for Testing Materials, American Concrete Institute, American Association of State Highway Officials, Asphalt Paving Technologists and the Highway Research Board. He is a member of the American Society of Civil Engineers.

From 1937 to 1941 he held the position of Highway Materials Engineer for the Republic Steel Corporation and in this capacity contacted state and federal engineers on uses and specifications of metal drainage products. In 1941 Mr. Bauman joined the Non-Metallics Section of the Mining Equipment Division of the War Production Board. Shortly thereafter he was promoted to Chief of the Section, the position which he now holds.

Mr. Bauman's duties as envisioned at present will be those properly included under his title of "Field Engineer". It is proposed that he spend a considerable amount of his time in the field, cooperating as fully as possible with engineers, contractors and crushed stone producers to the end that information which has been developed concerning the use of stone may be given wider and more intimate distribution than has been possible in the past. Undoubtedly his work will require that he be alert to specification requirements pertaining to stone and its uses and, whenever possible, he will bring the newest information regarding crushed stone to the attention of those responsible for the writing of specifications. He will implement our research activities in ways aimed particularly at giving widespread, yet direct, distribution of the facts thus established.

(*Continued on page 14*)

# Effects of Disposal of Surplus Property[1]

By HON. MILLARD E. TYDINGS

**United States Senator from Maryland**
**Washington, D. C.**

**• Senator Tydings has long been recognized as an outspoken champion of the private enterprise system and is keenly aware of the many dangers which will threaten this system during the post-war period. The constructive suggestions offered in the following article should be of great interest to every businessman.**

IF WE wish to keep the restraints, liberties and opportunities provided for our people in our National Constitution, to maintain our system of private business and free enterprise, and adhere to our traditional American way of life, there must be a keen understanding of, and a ready plan and purpose to deal with those towering post-war problems which are even now beginning to loom on the domestic horizon.

What are these great problems which will appear overnight when the last shot is fired in this tragic war? Here they are:

1. Of the 11 million men in the armed forces, approximately 9 million will be discharged and will be hunting for positions in private employment. To these 9 million must be added the major part of the 20 million workers in the war plants, most of whom will be laid off overnight. They, together with the returning soldiers, will make a temporary unemployed army of between 20 and 25 millions of persons now employed.

2. The National debt will likely be 250 billion dollars. That is $7,500 a family. The total assessed value of all property in the United States is approximately 140 billion dollars. Thus, the national debt will be nearly twice as large as the assessed value of all property in this country.

3. It is estimated that in June, 1944, the total bank resources of our nation will be 160 billion dollars. 70 percent of these resources, or about 112 billion dollars, will then be invested in the bonds of our National Government. The capital assets of all our banks are estimated at 8 billion dollars. A decline of eight points in our national government bonds would entirely wipe out the capital assets of all the nation's banks.

4. There will be about 75 billion dollars worth of outstanding governmental war contracts. These will be cancelled overnight. That is ten times the amount of outstanding war contracts as existed at the end of World War 1. Until these outstanding war contracts are negotiated, adjusted and settled, hundreds of business institutions will be unable to go ahead. They will not know where they stand. It will be difficult for them to borrow until the lending agencies know what the financial position of these companies are, having unsettled war contracts.

5. It is estimated that on the date of the armistice the national government will own 60 billion dollars worth of materials ranging all the way from ships to machine tools, hotels, shoes, munitions, food, clothing, trucks and hundreds of other items too numerous to mention. Much of these materials the government will no longer need. The fact that the government has them and will likely sell them from time to time will hang over the domestic market, create uncertainty, and tend to depress the revival of private business.

6. During the war the National Government has acquired vast amounts of land. It now owns about 47,000 square miles. This is little short of the entire area of the six New England States. The Government will no longer need all of this land. Such land as it does not need will have to be re-sold.

On the brighter side of our post-war picture, there is the back-log of the unfilled needs of the masses of people for automobiles and tires and gasoline, refrigerators, furniture, clothing, shoes, farm machinery, utensils, railway equipment, housing, and many other articles which it has not been possible for our people to get during war times.

The above, the good and the bad, is an outline for our post-war action on the day following the cessation of hostilities.

We must prepare to meet each and every one of these problems, not when the war is over, but now. The whole machinery of orderly and non-competitive liquidation must be ready during the war, and the vast work of directing the country from a war to a peace economy must start as suddenly as war itself usually starts.

[1] Presented before the Luncheon Forum on "Democracy and Jobs" during the War Council of the Chamber of Commerce of the United States, New York City, April 27-29, 1943.

Everyone in this nation has a gigantic stake in this whole endeavor. Every manufacturer, every industrial worker, miner, and farmer, every white collar worker—indeed, every citizen in this Republic will embrace the difference between depression and prosperity according to our ability to deal speedily and successfully with every one of these great and difficult looming problems.

What must our National Government do in order to discharge its part in the peacetime rehabilitation of the public life of our nation, so that the channels of trade may be as free as is humanly possible, so that business may go ahead with a certainty of what future governmental policy will be, so that the 20 or 25 million unemployed following the armistice may find positions again in private industry at good pay, and so be able to provide for themselves and their families.

Here are the things that Government must do before the war is over:

1. It must set up a liquidating agency, comprehend all the factors and plan to re-sell that part of the national domain which our government will no longer need.

2. It must set up another liquidating agency to sell, in an orderly fashion and with a minimum interference to private business, the 60 billion dollars worth of varied materials which the Government now owns. Some of these things, like clothing, shoes and food, can be utilized by our Government to soften the hardships of the unemployed during the transition period. Much, however, of the remaining material can only be sold in competition with private business which will then be struggling to readjust itself to our peacetime economy. Some hardship to business cannot be escaped, but a wise liquidation of the vast holdings of government-owned materials will reduce this hardship to its irreducible minimum and should not seriously impair operations for production and for work.

3. We must have another governmental agency set up with its plans ready which will go to work at once in settling the 75 billion dollars of cancelled war contracts. This will be one of the most delicate and important functions of the post-war operations of our National Government. Until these contracts are settled there is bound to be an atmosphere of uncertainty, rumor, hardship and even suspicion. The Government has a tremendous investment in and ownership of many of the plants with which it has made contracts. Our object should be to get the Government out of these plants and out of private business at the earliest possible moment. Unless these war contracts are settled equitably and speedily, many businesses, already in debt to the national government for plant expansion, will be unable to borrow from private sources during the transition period. They will look to the Government for additional capital with which to carry on. If that should happen, the Government will get more deeply into private business than it is. This would be unfortunate. It might conceivably change our entire traditional policy. Unless wisely tackled and administered, this problem might not only put the Government farther into business than it now is, but could lead to a Governmental fascist economic status. After the last war it took three years to adjust many of the 7½ billion dollars of cancelled war contracts. With that experience behind us, there is no sound reason why each one of these contracts cannot be thoroughly adjusted within a year after hostilities cease. That can only be done if we plan to do it now while the war is still on.

4. It is not unlikely that the National Government will have to take some measures to deal with unemployment during the transition period. Most States, cities and counties have reduced their indebtedness in recent years. The contribution of the Federal Government toward unemployment should be less than it has been in the past. The contribution by local government should be greater in view of the changing debt status of the nation and the local governments. Moreover, every large city and many of our States should now be looking into projects, such as roads, bridges, schools, hospitals, sewers and water supply, and the like, as a part of this unemployment program. The things built should be useful things—things as far as possible which the local governments would have to build anyway. There should be as little waste of manpower in this program as is possible.

5. The President and the Congress, through the medium of national laws, should announce to the people of the country that its primary post-war objective is the complete withdrawal of government from private business and that all governmental measures will be directed toward the complete and speedy restoration of our system of private enterprise, as we have known it in this great nation.

Now, dealing specifically for a moment with the estimated 60 billion dollars worth of materials which the Government will own, let us see how that can be treated in general outline. It should be broken down in the following categories:

1. Those things which the Government has acquired during the war, which the Government still needs, such as some critical materials, munitions, and supplies for our armed forces, office space for regular peacetime operations, and the like. These things can be removed from the list of materials remaining to be disposed of.

2. Those things which the Government now owns but which can be sold back to private concerns without depressing private enterprise. In this category would be hotels, office buildings, some aircraft, shipways, synthetic rubber plants, war chemical establishments, some machine tools and machinery and the like.

3. There will be the quantities of materials which cannot be disposed of by the Government except in direct competition with private business which will be producing in whole or in part the same thing. Here is where good judgment must prevail. There should be representatives on this liquidating board of concerns that are producing the things the Government is selling so as to feed these things back into the market with as little hardship to private business as is humanly possible. This is going to be a delicate operation. It will require time. Everything the Government sells will, to some extent, depress employment. Business, the working man and the farmer will be affected, favorably or adversely, depending on the wisdom with which this program is carried out. There will be a paradox of administration. On the one hand the Government should dispose of all these materials at the earliest possible moment. On the other hand, it should dispose of them only as it can do so with the minimum of competition with private producers of the same articles.

4. By National law the administration then in power should declare that the proceeds and receipts from the disposal of all properties owned by Govermnent should be applied to reducing our national debt and for no other purpose whatsoever. If this is done not only can the national debt be reduced in the post-war years many, many billions of dollars, but by this reduction our reduced national income, certain to follow the close of the war, will offer the best prospect of keeping the finances of the national government in a sound, healthly condition.

5. Either by Constitutional amendment or otherwise, we should provide that in times of peace Congress cannot spend more money than it takes in in any one year without providing for increased taxes to completely wipe out such annual deficit within a period of not more than 20 years from the time the deficit is created.

You cannot continue to run this Government, or any other business in the world, on borrowed money, living on the future. That is the path of ruin. Deficits should not be permitted unless taxes are provided which, when collected in the future, will wipe out such deficits. That is the easiest way, in the long run. The other way is the hard and ruinous way, in the long run.

This policy should have been adopted long ago. From 1930 to 1940 the National Government spent 27 billion dollars more than it took in; an annual deficit of 2 billion 7 hundred million dollars a year. In the early 30's this was understandable. In the late 30's it was shortsighted. Now we have to, in the face of all our other war debts, pay off this 27 billion dollars of national debt incurred from 1930 to 1940.

And do not suppose that this 27 billion dollars national debt from 1930 to 1940 was caused by preparations for war. For the ten years from 1930 to 1940 the entire cost of our Army and Navy, in every particular, amounted to only 11 billion dollars for the ten-year period. Thus, if we subtract the total cost of the Army and Navy during this period, which was 11 billion dollars, from the 27 billion dollars of national debt incurred during these same years we see that the Government spent 16 billion dollars more than it took in during this ten-year period, without a single penny of this 16 billion remaining being spent in any respect for our Army or Navy for preparedness.

This policy should stop, and must stop completely if our Constitutional system and our traditional private business enterprises are to continue. There is no other solution. This country must be put on a pay-as-you-go basis and when borrowings are necessary there must be the taxes accompanying said borrowings which will pay them off in a period of not more than 20 years in peacetime.

Now, a respectful suggestion to the United States Chamber of Commerce. If you find yourself in general agreement with the conditions I have outlined, if you feel that my humble suggestions are worthy of your consideration and action in the main, then do not wait for the President and the Congress to make these matters effective. Do it yourself. Create committees out of your own membership now. Prepare your policies and plans now and have them introduced in the Congress for consideration and study and for appropriate action thereafter. Congress is busily engaged, in the main, with the war.

It does not have, and cannot have, the clear understanding, the wealth of detailed information, which many of you gentlemen have, concerning the matter which I have discussed. It is imperative, not only in your interests, but in the interest of every working man and woman, every farmer and urban dweller in the land that you gentlemen make suggestions to the National Legislature now for the appropriate consideration of our post-war problems.

I believe your suggestions will be sympathetically received. We can have hearings on the suggestions you make. We can perfect these tentative laws to do the job which lies ahead. We can set up the liquidating agencies so they can be studying these problems and so they will be in a position to act the minute the war is over.

By doing so, we can help to save the constitutional system which we love. We can give to private enterprise its greatest opportunity. We can cut the army of unemployed to the minimum. We can have the smallest measure conceivable of government interference with business. We can furnish the greatest market for the products of the plants, the mines, the forests and the farms. We can keep down the national debt. We can provide the greatest volume of governmental income. We can the more speedily reduce the national debt. In a word, we can save in all of its great glory and historical beneficence the traditional America we love, and keep it in the highest place among the nations of the world. Only by doing these things can our Government and you, the leaders of business, aid best our fellow man, keep the door of opportunity open to all, and say to the returning soldiers and sailors, who come back from the battlefronts: Here is the America you went forth to defend, basically unchanged, basically strong, with its government as the servant and not the master of the people, with its fair chance for youth to climb the ladder of success, prosperity and contentment, as millions of Americans have been climbing it ever since our constitutional form of government was adopted by the thirteen original states.

Let us resolve here and now not to shrink from any of these looming difficulties but to go forth in the firm faith that we can and we shall overcome them, that we who stay at home have kept the faith during the war, and will keep it during the post-war period.

## State Highway Departments Urged To Speed Plans for Post-War Work

STATE highway departments are being urged by many national and state highway user groups to proceed as rapidly as possible with the completion of plans and acquisition of rights-of-way for specific post-war highway projects. Construction and rehabilitation of highways is being considered in many quarters as an integral part of a public works program needed after the war to provide necessary economic readjustment and to relieve unemployment.

It is pointed out that much time is required in the development of detailed plans and specifications for particular highway projects and legal procedure for acquiring rights-of-way sometimes is extended over a period of many months. Many highway user organizations fear that if these delays are not overcome before post-war unemployment becomes acute that the need for jobs of some kind necessarily will take precedence over a sound public works program and that the Federal Government will project itself directly into the field of road building.

Congress already has acted to assist the state by extending for the duration of the war and one year thereafter approximately $170,000,000 in unexpended Federal highway aid balances and permitting the use of $50,000,000 of these funds for highway planning. Other legislation now before the Congress would authorize one billion dollars in Federal funds annually for each of the three years immediately following the war for highway purposes. This money would be spent in accordance with the established principle of Federal-State cooperation in highway building but the matching basis would be changed from a normal 50-50 basis to 25 per cent by the states and 75 per cent by the Federal Government.

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### Edward W. Bauman

*(Continued from page 10)*

Undoubtedly the successful accomplishment of the present plan will stand as one of the most important milestones in the growth of our Association activities, and to those who initiated and developed it and to those companies which by virtue of their voluntary financial assistance have made the effectuation of this plan possible is due the most grateful appreciation of the industry.

## Samuel Reid Russell

HIS many friends throughout the crushed stone industry will be deeply shocked and grieved to learn of the death of "Sam" Russell which took place suddenly early Thursday morning, July 8, at a hotel in Easton, Pennsylvania, where he had gone to supervise a blast.

Mr. Russell was an enthusiastic supporter of the activities of the National Crushed Stone Association. He served as the Chairman of its Manufacturers' Division and was a member of its Board of Directors for many years.

He first joined the du Pont organization in 1907 and at the time of his death was considered the dean of America's dynamite technicians.

The foremost authority on all kinds of quarry and marine blasting, he perfected the method of tunnel blasting in open quarries. He supervised shots not only in this country. but in Canada and South America. He often was called in as a consultant to the government on various projects, the deepening of Honolulu harbor being one of many, and one of particular interest.

Mr. Russell was the country's outstanding technician on precision dynamiting. One of his most spectacular accomplishments was the felling of a river dam which had been built upright on one bank. By accurate blasting of a retaining wall, he dropped the pre-constructed dam in a prepared base with only inches to spare on either side of the dam.

Whenever there was a big, dangerous blast to be made, "Sam" Russell was called on. He felled many an obsolete factory chimney within a narrow space between two buildings. He dynamited old bridges and made the debris fall exactly in a previously selected spot. During his lifetime he blasted loose literally billions of tons of rock. Recently he was called in as a consultant on another type of shot in Canada, which will involve the use of 2,300,000 pounds of high explosives in one charge. Once he even blasted a foundation in the middle of a power plant without the plant's dynamos shutting down for a minute.

He helped develop new methods for harbor blasting, particularly for cleaning out big harbors such as that of New York City. He was consultant to many of the country's largest engineering and contracting firms on their biggest projects. As the leading dynamite expert, he addressed engineering societies, clubs and other organizations all over America. He also wrote numerous articles for trade publications on the techniques of dynamite blasting.

Mr. Russell was born in Belfast, Ireland, on December 27, 1880, the son of Samuel and Sarah Russell. He came to this country at an early age, and was educated at Troy, N. Y., high school and Rensselaer Polytechnic Institute. He received a degree in civil engineering in 1904. He was a member of Delta Tau Delta fraternity.

He worked as a construction engineer for several companies before he joined du Pont in 1907 as a salesman in the Nashville, Tenn., office. He soon was transferred to the technical division, and became one of the country's first specialists in dynamiting techniques. He was senior technician at the time of his death.

Mr. Russell is survived by his wife, Adelaide C. Russell; two daughters, Mrs. Raymond Atkins and Miss Adelaide Russell; and one son, Lt. Samuel R. Russell, Jr., of the United States Army.

## Construction Activity During First Quarter

THE total volume of construction activity in the United States amounted to $730,584,000 in March, the War Production Board announced May 20. This was 5 per cent less than February and 23 per cent under the figure of March, 1942.

The total amount of construction work put in place during the first quarter of 1943 was $2,318,555,000. The actual volume exceeded the forecast by 3 per cent. First quarter volume of 1943 showed an 8 per cent decrease from the total of the first quarter of 1942, and a 45 per cent reduction from the $4,254,000,000 peak volume completed during the third quarter of 1942. The decline from the fourth quarter of last year was 28 per cent.

The over-all quarterly rate of decline for all construction is expected to be less sharp for the second quarter, probably around 7 per cent. In contrast, especially in view of the fact that construction activity has been definitely on the downtrend since August, 1942, the 1942 second quarter construction volume was 34 per cent above the 1942 first quarter performance.

For the first quarter of 1943, Government financed plant expansion amounted to $1,706,843,000 or 2 per cent more than the anticipated volume. This activity, while 62 per cent above the volume of the first quarter of 1942, was 11 per cent below the total for the final quarter of 1942. Factory construction, excluding machinery and equipment deliveries, in the first quarter of this year amounted to $755,001,000, which was a decrease of 24 per cent from the fourth quarter of last year. In the second quarter, it is expected that there will be a decrease of approximately 38 per cent from the level of the first three months of 1943.

Machinery and equipment deliveries in the first quarter of this year totaled $951,842,000 which approximately equaled the forecast. First quarter deliveries in 1943 more than doubled the amount delivered in the corresponding quarter of last year and was 3 per cent above the high quarterly volume (fourth quarter) delivered during 1942. However, deliveries in the second quarter of this year are expected to decline by an estimated 18 per cent.

Construction decreases occurred in nearly all types of plants in March. Increased machinery and equipment deliveries over February were reported at factories to produce aircraft, combat vehicles, iron and steel, synthetic rubber, and non-ferrous metals.

Housing and community facilities construction increased 8 per cent in March. Government financed housing was up 10 per cent, while work on community facilities rose 54 per cent over the month. Privately financed housing decreased slightly from February, with these trends expected to be maintained in April figures. These reports reflect the value of work put in place rather than the value of the projects completed or started during the month.

Expansion of Government financed industrial facilities (construction volume and machinery and equipment deliveries combined) totaled $541,727,000 in March, a 6 per cent decline from February. Future monthly volume in the industrial category is expected to be progressively lower, although machinery and equipment deliveries—now near their monthly peak—are expected to hold the present level for at least another month. Factory building in March amounted to $226,356,000, a 14 per cent decline from February. Machinery and equipment deliveries to plants being built by the Defense Plant Corporation more than maintained the sharply accelerated rate shown in February.

## Some Observations

(*Continued from page 9*)

Maguire, received this full load through his hand and body and was knocked out while helping in some emergency repair work. Due to the bravery, resourcefulness and skill of the two electricians, John DeBoyace and George Keenan, and two truck drivers, Leo Hogan and Victor Smith, and the blaster, William Heck, Maguire was freed from electrical contact, artificial respiration was applied, and in about ten minutes he was breathing again. Two days later he was up and about again with no after effects from his harrowing experience other than a severely burned hand.

We have trained about 15 percent of the men in First Aid and have had difficulty in persuading any more to take the standard First Aid course. Consideration now is being given to the advisability of giving a very short course covering measures necessary to control severe bleeding, treatment of shock, heat exhaustion and sun stroke, and instruction in artificial respiration to all the men.

We believe that the experience in Haverstraw, as related above, will be a great help in convincing our men that knowledge of proper first aid procedure is extremely valuable generally and priceless in an emergency, and that they will all cooperate with us in the future by signing up for First Aid classes.

# Selling Safety to the New Man[1]

By EARL G. GLESSNER
Medusa Portland Cement Company, York, Pa.

**• In the following article Mr. Glessner gives the viewpoint of an employee who works in the plant. He has ably analyzed a problem which is of major importance today in the field of accident prevention. His discussion merits the thoughtful consideration of every plant executive.**

I WAS rather pleased when given the opportunity to come to Chicago to attend this meeting and I am more than pleased to talk on the subject, "Selling Safety to the New Man." However, I don't want you to form the impression that I come here as an authority on safety. The views I intend to give you are those of the man in the mill, the men who make the products for the companies you represent.

I said I was pleased to talk on the subject, "Selling Safety to the New Man," because I feel industry as a whole has failed to sell the new man on safety. How many times has a new man been hired and told to report to his foreman, a man who has been in the mill for years and thinks everyone else is accustomed to the heavy machinery and noises of the mill. He tells him what his duties are and says, "You'll catch on to it in a few days." He doesn't stop to consider that this new man might have come from an industry where they had no machinery, and he can't realize the change this new man is making. A new job, altogether different surroundings, and a group of strange men who he believes are watching every move he makes.

Can you remember your first trip to a mill when it was in production? I can well remember mine. I came from a furniture factory where I was working in the finishing department where the only machinery we had was a few light fans to draw out the fumes of the spray booth. I tell you I was very much surprised, and somewhat frightened, to see those huge hot kilns turning out their clinkers and to hear the mills grind those clinkers. I'll tell you I took things pretty slowly those first few weeks. While the machinery was very well guarded, I could see it was no place for day-dreaming. While I knew that I was covered by compensation against accidents, I also knew there was more to an accident than compensation, the physical pain and suffering not only to the injured but the immediate family of the injured.

Gentlemen, I know of that suffering and those heartaches because my father lost the sight of one eye through an industrial accident. That was before goggles were ever heard about in that industry, and I also have a younger brother who goes around with a stump in place of a right hand. Why? You might say carelessness, but I say somebody failed to sell safety to the new man. I'd like to go a little further on that accident. This boy had just finished an enlistment in the United States Army which was during peacetime, and was discharged when jobs were hard to get. He had a buddy who was working for a box factory and he lost the tips of two fingers through an accident, so he told him they were a man short and he could probably get that job. He inquired about the job and was put to work. A very short time later his accident occurred which resulted in the loss of his right hand. I know of the amount of compensation he received and of the suffering he, as well as his family, endured. That particular concern thought it cheaper to move to another State where the compensation laws were not so strict rather than to have some sort of a safety program.

Of course, we have lots of manufacturing plants which are contributing members to safety organizations, but that is as far as they go. The literature and safety posters which they receive seldom get any farther than the superintendent's office, and eventually the waste basket, and may I say here that I have my first safety poster yet to see that failed to offer a safety lesson in itself, whether it was issued by a safety organization or an insurance company, and I believe those posters should be displayed at various places throughout the plant and be changed about through the plant so that every man in every department has a chance to see and study those posters.

I believe labor as a whole feels the same about accidents and will cooperate with any safety campaign if given the proper leadership. We all know that, not many years ago if a man had dared to ask for first aid for a minor scratch or cut, instead of first aid he received a good bawling out and was considered a softy. I worked for one concern which had one of the most modern first aid stations in the county, but

[1] Presented before the Cement and Quarry Section, 32nd National Safety Congress and Exposition, Chicago, Illinois, October 7, 1943.

I am sorry to say it was for show purposes only. Each employee had his own bottle of iodine which was considered a cure-all for everything. While I knew that the men at the top did not want these conditions to exist they, I believe, were at fault because they failed to have any sort of a safety program. Their lost time accidents and hospital cases were very frequent. While I have been away from that concern for about ten years, I have been keeping in touch with them and I am glad to report that they are making an effort to try to control those accidents.

Now to get to "Selling Safety to the New Man." Who should be the salesman? The first man who interviews that new man should also be one of the spark plugs of the safety organization of that particular plant. We all know that first impressions are more or less lasting impressions, that he can do much in steering the new man on the right course. If goggles and safety shoes are required, let him make that known at that interview and it will be much easier than to tell that man six months later that he is expected to wear safety shoes and goggles, because the new man needs that protection from the very beginning. Take the new man to the foreman of the department where he is expected to work and introduce him, and have the foreman take him through the department and make him acquainted with the men whom he will be expected to work with. Also, explain the machinery and point out the guards and why they are there. Impress upon him the importance of reporting minor cuts, scratches and bruises and having them attended to immediately. Take him to the first aid station and make him acquainted with the men in charge there so that when he does have a minor accident he will not try to hide it for a period of days until infection sets in. Then when he reports to work put him on with a man who thoroughly understands the job and let him break him in on that job.

You might say that is an extra expense. It is, but it also makes an efficient and capable employee. If the man is broken in properly on the job, there will be no occasion later for the foreman to point out little jobs that the new man has failed to do. If at all possible, and the man is on shift work, I would suggest that the man be given a day with a day man and report the next day with the night man. Of course, that would mean two days of training at the expense of the company, but I believe that it would be cheaper to have an efficient employee than to be breaking in a new man every few days. The company doesn't want a high labor turnover and neither do the men on the shift, because once they are acquainted they more or less work as a unit.

Today, with the scarcity of manpower and machinery it is equally important that the new man thoroughly understands the machinery so that no harm can come to the machinery or him. At the first opportunity, when the plant safety committee meets, you should try to relieve him and invite him to attend the meeting so that he can see just what goes on at those meetings, and that the men who are charged with the operation of that plant are interested in safety.

I'd like to tell you a little of our safety program at York, Pa. In 1936 a group of employees got together and decided to hold our own safety meeting once a month to which every employee, from the laborer in the yard to the superintendent of the plant, was invited to attend on his own time. We do not only deal with accidents in the mill, but also with accidents in the home and on the highway as well. The men are free to discuss their problems and their safety recommendations are referred to the plant inspection committee and they give a report at the following monthly meeting, and most times the report reads "Recommendation investigated and suggestion carried out." Our superintendent attends those meetings, not in his capacity as superintendent, but as an employee. At the present time the different departments sponsor and have charge of the meetings. This creates a certain amount of rivalry among the departments, each department trying to put on a little better meeting. Ofttimes the older men in the plant would rather not take part, and the new man should be contacted and given every opportunity to take part in the conduct of the meeting. To date, we have enjoyed a very favorable safety record, and the credit doesn't go alone to our safety director, who happens to be your chairman. While he has provided the leadership so necessary, he has received the cooperation of the men from the superintendent on down to the laborer in the yard, because when he makes his trips to the various mills, he still finds time to go through the mill and extend a glad hand to the men who help to keep the zeros on the accident score board.

We all know that industry is on a full speed schedule, and if we want to enjoy the peace and security we always knew, we must still do better, and above all, keep pace with our safety work. The job is big but let's prove we are equal to it. You furnish the leadership and I'm sure you'll find the men in the mill are behind you.

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